

In the Claims:

Please amend claims 1, 2 and 13. The status of the claims is as follows:

1. (Currently Amended) A magnetic recording medium, comprising:
 - a first layer including a plurality of noncontiguous islands formed on the substrate;
 - an underlayer formed on the first layer, the underlayer being made of Cr based substance; and
 - a magnetic layer formed by epitaxial growth on said underlayer, the magnetic layer being made of Co based magnetic substance;

wherein said magnetic layer further comprises a plurality of layers, each made of Co based alloy including at least one of oxide and nitride as additional content.

2. (Currently Amended) A magnetic recording medium, comprising:
 - a first layer including a plurality of noncontiguous islands formed on the substrate;
 - an underlayer formed on the first layer, the underlayer being made of Cr based substance; and
 - a magnetic layer formed by epitaxial growth on said underlayer, the magnetic layer being made of Co based magnetic substance;

wherein said magnetic layer further comprises:

a first magnetic layer made of Co based alloy including at least one of oxide and nitride as an additional content; and

a second magnetic layer made of Co based alloy, the second magnetic layer being formed on the first magnetic layer.

3. (Previously Presented) The magnetic recording medium as claimed in claim 2, wherein the first magnetic layer further comprises a plurality of layers, each made of Co based alloy including at least one of oxide and nitride as an additional content.

4. (Original) The magnetic recording medium as claimed in claim 1, further comprising:

at least one of Cr layer and Cr based alloy layer formed on said magnetic layer.

5. (Previously Presented) The magnetic recording medium as claimed in claim 1, wherein the Co based alloy including oxide as an additional content is a member selected from the group consisting of CoPt alloy-SiO₂ and CoPt alloy-Al₂O₃.

6. (Previously Presented) The magnetic recording medium as claimed in claim 1, wherein the Co based alloy including nitride as an additional content comprises CoPt alloy-Si₃N₄.

7. (Withdrawn) A method of fabricating a magnetic recording medium, comprising the steps of:

forming an underlayer on a substrate by depositing Cr based substance and a plurality of magnetic layers on the underlayer, each magnetic layer formed by depositing Co based alloy including at least one of oxide and nitride as additional content by epitaxial growth, a composition of the Co based alloy being different from one another, wherein no heat and bias voltage are provided to the substrate; and

heating the substrate thereby to promote segregation of chromium in grain boundaries of the plurality of magnetic layers.

8. (Withdrawn) A method of fabricating a magnetic recording medium, comprising the steps of:

forming an underlayer on a substrate by depositing Cr based substance, at least one first magnetic layer on the underlayer by depositing Co based alloy including at least one of oxide and nitride as additional content by epitaxial growth, and a second magnetic layer on the first magnetic layer by depositing Co based alloy including neither oxide nor nitride as additional content, wherein no heat and bias voltage are provided to the substrate; and

heating the substrate thereby to promote segregation of chromium in grain boundaries of the magnetic layers.

9. (Withdrawn) The method as claimed in claim 7, further comprising the step of:

forming a Cr layer on the magnetic layer by depositing chromium before the step of heating the substrate.

10. (Withdrawn) The method as claimed in claim 7, wherein each step is performed in vacuum in which exposure to residual gas is less than 0.6 langmuir.

11. (Withdrawn) The method as claimed in claim 7, further comprising the step of:

forming a nucleation site layer of island structure thereby to finely grain the underlayer before the step of forming the underlayer.

12. (Withdrawn) The method as claimed in claim 7, wherein the magnetic layers are formed by RF sputtering method.

13. (Currently Amended) A magnetic recording apparatus, comprising:
A magnetic recording medium including;
a first layer including a plurality of noncontiguous islands formed on the
substrate,

an underlayer formed on the first layer, the underlayer being made of Cr based substance; and

a magnetic layer formed by epitaxial growth on said underlayer, the magnetic layer being made of Co based magnetic substance;

wherein said magnetic layer further comprises a plurality of layers, each made of Co based alloy including at least one of oxide and nitride as an additional content.

14. (Withdrawn) A magnetic recording apparatus of which magnetic recording medium is fabricated by the method as claimed in claim 7.